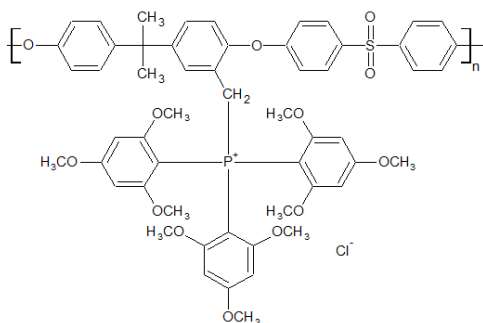


# Quaternary Phosphonium-Based Hydroxide Exchange Membranes (Award # DE-AR0000009)

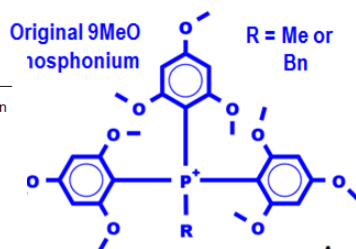
Yushan Yan

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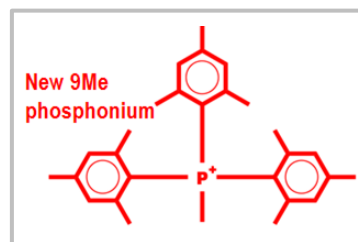
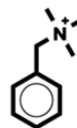
## Ion-conducting polymers



## A new super-stable phosphonium cation



Ammonium benchmark



## Stability in $\text{Ce}^{4+}$

